<u>Amendments to the Specification</u>:

Please add the following text after the second paragraph beginning on page 11 at line 6 of the current specification:

> <u>**Figure 22** is an illustration of the Visit Frequency Limit Model of Core Area Route Design, according to one embodiment of the present invention.</u>

Please replace the fourth paragraph beginning at line 25 on page 30 and continuing on through page 31 to page 32 of the current specification with the following amended text:

In one embodiment, the route planning system **10** of the present invention solves this problem by selecting a reference day on which the minimum number of drivers is available. Each driver is assigned a route on the reference day. For subsequent days, an attempt is first made to assign the same driver to the new route that has the most amount of territory overlap with the assigned route. The following steps illustrate an embodiment of a driver route assignment method:

(1) Execute a route planning algorithm over the service territory **20** for each day during a reference period [[**320**]].

  (a) Determine the number of assigned routes [[**115**]] needed for each day during the reference period [[**320**]]. The number of assigned routes [[**115**]] equals the number of drivers needed.

  (b) Find the minimum number of drivers (*i.e.*, the base staff [[**22**]]) needed during any single day (or days) during the reference period [[**320**]].

(2) Select as a reference day [[**310**]] any single day during the reference period on which only the base staff [[**22**]] was needed. The solution of the route planning algorithm for the reference day [[**310**]] produces an assigned route plan [[**110**]] comprising a number of assigned routes [[**115**]] equal to the number of base staff [[**22**]]. Each assigned route [[**115**]] has an assigned driver [[**26**]].

(3) Compare a current day [[**300**]] to the reference day [[**310**]]. The route

planning algorithm run for the current day [[**300**]] produces a plurality of unassigned routes [[**124**]].

(a) For each of the assigned routes [[**115**]] on the reference day [[**310**]]:

(i) find the one of the plurality of unassigned routes [[**124**]] for the current day [[**300**]] which has the maximum geographic overlap with the assigned route [[**115**]], wherein the geographic overlap is determined by calculating the area of the intersection between the convex hull of the assigned route [[**114**]] and the convex hull of the unassigned route [[**124**]]; and

(ii) assign the unassigned route [[**124**]] to the assigned driver [[**26**]].

(b) Assign an additional driver to any unassigned routes [[**124**]] remaining after each of the number of assigned routes [[**115**]] has an assigned driver. In other words, additional drivers available on the current day [[**300**]] will serve the remaining unassigned routes [[**124**]]

Please replace the third paragraph beginning at line 15 on page 32 of the current specification with the following amended text:

The grid method is illustrated beginning with **Figure 3**, which depicts an exemplary first daily route **121** assigned to a first driver **23** (Driver Smith) on a day (Monday) during a reference period [[**320**]]. The route **121** may represent one of the routes within the convex hull **B** illustrated in **Figure 16**. In this context, the following steps illustrate an embodiment of a grid method.

Please replace the first paragraph beginning at line 6 on page 33 of the current specification with the following amended text:

(2) The following steps may be executed for each grid segment **152**, for each day during a reference period [[**320**]], and for each assigned driver [[**26**]]. It may be appreciated by one skilled in the art that storing the following data in a database or other type of data store on a computer may facilitate the comparisons, calculations, and other uses described for the data. In one embodiment of the present invention, the methods and systems disclosed impliedly include a method of gathering, tracking, storing, and retrieving empirical data from each element in a route planning system, including but not limited to the hubs, route plans, discrete routes, route stops, cells, sub-routes within cells, sub-route stops, parcels, as well as the drivers, vehicles, and related systems involved in accomplishing deliveries. The grid method may be formulated for execution by a computer system. In one embodiment, an array or matrix may be used to categorize and easily reference the data regarding each grid segment **152**, for each day during a reference period [[**320**]], and for each assigned driver [[**26**]], in the following steps:

Please replace the second paragraph beginning at line 20 on page 33 of the current specification with the following amended text:

(a) Compare the number of stops within each grid segment **152** (referred to as grid stops [[**242**]]) to the number of total stops [[**342**]] along the assigned route for each driver. In **Figure 3A**, the number of grid stops [[**242**]] is shown as a numeral within each grid segment **152** and corresponds to the cells **40** shown in **Figure 3**. The comparison of grid stops [[**242**]] to total stops [[**342**]] may be expressed as a percentage. For mathematical simplicity, the number of total stops [[**342**]] in **Figure 3A** equals one hundred.

Please replace the third paragraph beginning at line 27 on page 33 of the current specification with the following amended text:

(b) Repeat the comparison described in step (a) for each day during a reference period. A second daily route **122** with different cell locations is shown in **Figure 4**. The second daily route **122** is assigned to the first driver **23** (Driver Smith) on

a subsequent day (Tuesday) during a reference period [[320]]. In **Figure 4A**, the number of grid stops [[242]] is shown as a numeral within each grid segment **152** and corresponds to the cells **40** shown in **Figure 4**. Again, for mathematical simplicity, the number of total stops [[342]] in **Figure 4A** equals one hundred.

Please replace the first paragraph beginning at line 7 of page 34 of the current specification with the following amended text:

(3) An exemplary compilation of the plurality of daily routes **118** actually driven by the first driver **23** during an entire reference period [[320]] is shown in **Figure 5**. In this step, for each driver, over all the days in the reference period [[320]], compare the average number of grid stops [[242]] to the average total number of stops [[342]]. This comparison is referred to as the grid segment visiting frequency **154** and it may be expressed as a percentage. The grid segment visiting frequency **154** for the first driver **23** only is shown in **Figure 5A**. Similar data may be calculated for each driver who serviced a route during the reference period [[320]].

Please replace the second paragraph beginning at line 15 of page 34 of the current specification with the following amended text:

(4) Compare the grid segment visiting frequency **154** across the service territory **20** for each driver. In real operating conditions, a grid **150** similar to that shown in **Figure 5A** may be produced for each driver on a staff. Then, for each grid segment **152**, identify the driver who has the highest grid segment visiting frequency **154** and assign this most frequent driver [[126]] to service that grid segment **152** on a continuing basis. In other words, assign the most frequent driver [[126]] to each grid segment **152**.

Please replace the third paragraph beginning at line 22 of page 34 of the current specification with the following amended text:

(5) Finally, to understand the pattern of visits across the service territory **20**, a grid consistency index [[156]] for each grid segment **152** may be calculated by averaging

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all the grid segment visiting frequencies **154** of all the drivers. A map of the service territory **20** showing the grid consistency index [[**156**]] for each grid segment **152** may facilitate the identification of those geographical areas that are most often serviced by a consistent driver. Thus, the grid consistency index [[**156**]] provides a measure of route consistency.

Please replace the first paragraph beginning at line 1 on page 35 of the current specification with the following amended text:

In another aspect of the grid method, the grid consistency index [[**156**]] may form the basis of a Core Area Route Design model, as described below.

Please replace the third paragraph beginning at line 15 on page 40 of the current specification with the following amended text:

Referring again to the grid segment visiting frequency **154** for a first driver **23** as depicted in **Figure 5A**, recall that a grid consistency index [[**156**]] for each grid segment **152** may be calculated by averaging all the grid segment visiting frequencies **154** of all the drivers. The Visit Frequency Limit model of the present invention may use the grid consistency index [[**156**]] to identify those geographical areas that are most often serviced by a consistent driver and, thus, most suitable for classification as a core cell **60**, as shown in **Figure 6**. Additional cell classifications are shown in **Figure 7**, including flex zone cells **50** and daily cells **70**.

Please replace the fourth paragraph beginning at line 23 on page 40 of the current specification with the following amended text:

Referring now to a route planning system **10** shown in **Figure 8**, the present invention in another aspect includes a method of designing the core areas **100** which is referred to as the Visit Frequency Limit model. The following steps illustrate an embodiment of the Visit Frequency Limit model <u>as shown in **Figure 22**</u>:

(1) A first step may include the execution of a route planning algorithm over a

number of days during a reference period [[320]] on a known data set. As in the Grid Method described above, a database may be used to categorize and easily reference the daily data for each driver.

(2) Run the Grid Method for measuring route consistency, as described above. The results may include a grid segment visiting frequency **154** for each driver **23**, a grid consistency index **[[156]]** for each grid segment **152** in the service territory **20** or portion thereof, and the identity of the most frequent driver **[[126]]** for each grid segment, as shown in step **2202**.

(3) Establish a minimum Visit Frequency Limit for the service territory, to use as the basis for deciding whether a grid segment may be classified as a core cell or placed in a core area, as shown in step **2204**.

(4) As shown in step **2210**, ~~Assign~~ assign the most frequent driver **[[126]]** to service the entire grid segment **152** on an ongoing basis if the grid segment visiting frequency **154** for the most frequent driver **[[126]]** is greater than the minimum Visit Frequency Limit, as determined in step **2208**. A grid segment **152** may include one or more cells **40**. When a grid segment **152** is assigned to a most frequent driver **[[126]]**, the cells **40** therein may be classified as core cells **60**. In this aspect, the method of assigning grid segments also accomplishes the task of classifying cells as core cells.

(5) If the criterion of step (4) is not met, the grid segment **152** and the cells **40** therein remain unassigned, as shown in step **2212**.

Please replace the first paragraph beginning at line 21 on page 41 of the current specification with the following amended text:

Figure 9 is an illustration of a group of core areas **100** containing core cells **60** and/or grid segments **152** assigned to a most frequent driver **[[126]]** using the Visit Frequency Limit model. **Figure 9** also shows a set of first exemplary delivery areas **80** within a service territory **20**. Cells assigned on an ongoing basis to a core area **100** are

referred to as core cells **60**. Typically, one core area **100** is assigned to each available driver.